

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

APPLICANT: CHIELENS, Alain

SERIAL NO.: 09/194,839

ART UNIT: 3632

FILED: December 3, 1998

EXAMINER: Marsh, S. M.

TITLE: CYLINDRICAL DRUM SUPPORT DEVICE

Amendment A: CLAIM AMENDMENTS

1. (canceled)

2. (canceled)

3. (canceled)

4. (canceled)

5. (canceled)

6. (canceled)

7. (canceled)

8. (canceled)

9. (canceled)

10. (canceled)

11. (new) A support apparatus comprising:

a rotary drum;

at least one roller cooperative with said rotary drum;

a block suitable for supporting the support apparatus;

at least two bearings cooperative with the roller so as to allow the roller to rotate  
about an axis of rotation;

a chassis secured to said at least two bearings, said chassis being mounted so as to pivot about a pivot axis substantially parallel to a plane passing through the axis of rotation of the roller and perpendicular to said block; and

a connecting means which is flexible in a given direction and which is rigid in a direction orthogonal to the given direction, said connecting means for maintaining said at least two bearings on said block while permitting free pivotal movement of said chassis so as to permit a alignment of said roller on said drum as said drum pivots.

12. (new) The support apparatus of Claim 11, said connecting means comprising at least two elongated pieces arranged symmetrically on sides of a plane passing through said pivot axis so as to be orthogonal to pieces secured thereto.

13. (new) The support apparatus of Claim 11, said block having a line perpendicular to said block, said given direction of the flexibility of said connecting means having an orientation approximating said line.

14. (new) The support apparatus of Claim 12, each of the elongated pieces being a beam having a flattened cross-section, said flattened cross-section being oriented in a direction substantially orthogonal to said given direction of flexibility of said connecting means.

15. (new) The support apparatus of Claim 12, the plane passing through the axis of rotation of said roller and said pivot axis intersecting at a point of intersection, said point of intersection defining a center of a circle having a radius defined by a distance between the center of the circle and a point of attachment of the elongated pieces to said chassis, said given direction of flexibility of said connecting means having an orientation approximating a tangent of the circle, said tangent being defined by a line passing through the point of attachment and perpendicular to the radius of the

circle.

16. (new) The support apparatus of Claim 12, said pivot axis being in an area of a plane of symmetry of the bearings.

17. (new) The support apparatus of Claim 12, further comprising:

a support member positioned in an area in which said pivot axis is located, said support member having two pieces cooperative with each other, one of said two pieces being an upper piece secured to said chassis, another of said two pieces being a lower piece secured to said block, said two pieces being formed by sections of a cylinder having a circular cross-section, an axis of said cylinder being parallel to said pivot axis.

18. (new) The support apparatus of Claim 11, further comprising:

adjusting blocks suitable for restricting displacement of the support apparatus.

19. (new) The support apparatus of Claim 12, the plane passing through the axis of rotation of said roller and said pivot axis intersecting at a point of intersection, said block inclined by a given angle in relation to horizontal in a direction of said drum in a plane perpendicular to said plane passing through the axis of rotation of said roller such that forces exerted by said drum are adjacent to said point of intersection.

20. (new) A rotary drum having at least one support apparatus according to Claim 11.

21. (new) An oven having the rotary drum of Claim 20.

22. (new) A drier having the rotary drum of Claim 20.

23. (new) A cooler having the rotary drum of Claim 20.